

REMARKS

Upon entry of the above amendments, this application will contain claims 1, 2, 5-15, 17-37, 40, 41, 44-47, 50-52, 54, 56, and 58 pending and under consideration. In this submission, claims 1, 19, 20, 23, 34, 40, 46, and 52 have been amended, and claims 3, 4, 55, and 57 have been canceled. (Claims 16, 38-39, 42-43, 48-49, and 53 were previously canceled.) In view of the discussion below, it is believed that the application is allowable over the cited art. Consequently, reconsideration leading to allowance of all pending claims is requested.

Claim Rejections Under 35 USC §102

Claims 1-7, 9-13, 18, 19, 40, 41, 44-47, 50, 51, and 58 were rejected under 35 USC §102(b) over Zdeblick et al. (US 5,669,909).

Claim 1 has been amended to recite that the interbody fusion spacer includes an "elongated, cylindrical body having... an outer surface defining threaded bone engaging portions." It is believed that the amendment does not add any new matter. Support for the amendment can be found in original claims 3 and 4, Figures 1, 2, 4, and 6-8, and in other locations throughout the application.

It is respectfully submitted that Zdeblick does not describe or make obvious the invention as claimed in amended claim 1. The implant of Zdeblick is not a cylindrical implant, but rather a conical implant. (Zdeblick, col. 5, lines 40-43, and Figures 2-8, 10, 11, 13c, and 13d.) The conical implant of Zdeblick is not the same as the presently claimed cylindrical implant. Consequently, withdrawal of the rejection of independent claim 1 and of claims 2, 5-7, 9-13, and 18, which depend from claim 1, is requested.

Claim 19 has also been amended to recite that the interbody fusion spacer comprises an elongated, cylindrical body. It is believed that claim 19 as presently amended is not anticipated by Zdeblick. As noted above, Zdeblick only discloses conical-shaped fusion devices.

Similarly, claims 40 and 46 have been amended to recite a method of promoting fusion bone growth comprising, among other things, providing a first interbody fusion spacer having a first elongated, cylindrical body. As noted above, it is believed that Zdeblick does not disclose cylindrical fusion devices. Consequently, it is believed that claims 40, 41, 44-47, 50, 51, and 58 are patentably distinct over Zdeblick.

Claims 1-3, 5-15, 17-22, 24-37, 40, 41, 44-47, 50-52, and 54-56 were rejected over Michelson (US 5,593,409). Claim 1 has been amended to recite that the elongate, cylindrical body has an outer surface defining a threaded bone engaging portion. It is believed that the presently claimed spacer is not anticipated nor made obvious by Michelson. Michelson discloses various embodiments of spinal implants. All of the embodiments are "push-in-type" implants having a plurality of ratchetings as illustrated in Figures 3-14 and discussed at col. 8, line 55 through col. 11, line 34. In this particular embodiment, the surface ratcheting is described as providing advantages against dislodgment. Michelson specifically disparages threaded implants. (See, in particular, at col. 9, lines 4-41.) Consequently, it submitted that this reference teaches away from the presently claimed invention, which includes a threaded spacer.

Furthermore, it is believed that Michelson does not disclose an interbody fusion spacer, which includes an outer surface defining a threaded bone engaging portion, an interior chamber, and a side wall opening into the interior chamber as presently claimed. In Michelson, the only implants with a concave surface are illustrated in Figure 43 and described at col. 15, lines 23-49. Michelson does not disclose that these implants have a hollow interior cavity chamber, a threaded bone engaging portion, or having a sidewall opening into the interior chamber as presently claimed. Consequently, it is believed that claim 1 is patentably distinct over Michelson. Therefore, withdrawal of the rejections of claim 1, and of claims 5-15 and 17-18 is respectfully requested.

It is believed that claim 19 is also patentably distinct over Michelson. As noted above, Michelson does not disclose or describe a cylindrical implant having a hollow interior cavity, a side wall discontinuity in which the side wall defines an opening in communication with the interior cavity as claimed in independent claims 19, 20, 34, 40, 46, and 52. Consequently, withdrawal of the rejection over claims 19-22, 24-37, 40, 41, 44-47, 50-52, and 54-56 are respectfully requested.

Claims 52 and 54-57 were rejected over Brosnahan, III (US 5,645, 598). Brosnahan, similar to the Michelson reference, does not disclose an interbody fusion spacer that includes a side wall discontinuity extending upon a length of the spacer and having an opening in communication with an interior cavity or chamber in the spacer. Brosnahan illustrates a spacer in Figure 14 that includes a concave surface. It can be clearly seen from this figure that the concave surface does not provide any opening into an interior region such as that identified as

slot 40. Consequently, it is believed that claim 52 and claims 54-57 are patentably distinct over the Brosnahan, III reference. Therefore, withdrawal of these rejections is respectfully requested.

Claim 19 was rejected under 35 USC §102(e) over Kohrs (US 6,224,631). It is believed that Kohrs does not disclose or make obvious the applicants' invention as claimed in independent claim 19. Kohrs describes his implant as unlike prior implants because they have no "surrounding side walls and no chamber". (Kohrs, col. 3, lines 43-45.) Instead, the implants support the load of the vertebral column by a simple support member. Consequently, the Kohrs implant is little more than an "I" shaped implant. The central support member forms the vertical arm of the "I" and the transverse members form the horizontal arms of the "I". (Kohrs, col. 3, lines 48-58, and col. 4, lines 9-29.) Consequently, the Kohrs implant does not include any side walls or an internal chamber or cavity as presently claimed. Additionally, it is believed that Kohrs does not disclose an implant having a discontinuity configured for nesting with an adjacent spacer. It should be noted that channels 24a and 24b in Figs. 1-10 are not configured to nest an adjacent spacer but rather are provided to allow enhanced bone in-growth. Further the physical shape or configuration of channels 25a and 24b would preclude nesting adjacent implant. It is also believed that Kohrs does not disclose an implant having an end wall discontinuity and a side wall discontinuity that extend about the circumference of the spacer's body substantially to the same extent as presently claimed. Consequently, for the reasons stated above, it is believed that independent claim 19 is patentably distinct from Kohrs. Therefore, withdrawal of rejection of claim 19 is requested.

Rejections Under 35 USC §103

Claims 1-7, 9-15, 18-26, 28-37, 40, 41, 44-47, 50, 51, and 58 were rejected under 35 USC §103(a) over Zdeblick in view of Michelson.

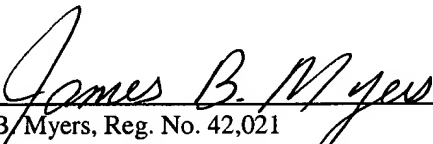
Applicants respectfully suggest that there is no motivation to combine the two cited references. Specifically, as noted above, Michelson strongly disparages implants having a threaded outer surface. Michelson advocates the use of ratchetings on the outer surface to resist dislodgment. (Michelson, col. 9, lines 4-39.) Consequently, the Applicants respectfully suggest that one skilled in the art would not consider modifying Zdeblick according to Michelson as suggested by the Examiner. Therefore, it is believed that the claimed invention, and specifically independent claims 1, 19, 20, 34, 40, 46, and 52 which recite that the cylindrical body has

external threads, are not made obvious by these references. Therefore, withdrawal of the rejections over claims 1-7, 9-15, 18-26, 28-37, 40, 41, 44-47, 50, 51, and 58 is requested.

Conclusion

In view of the foregoing remarks, it is respectfully submitted that the cited references, considered either singly or in combination, do not disclose or make obvious the claimed invention. Accordingly, reconsideration leading to withdrawal of all the rejections under 35 USC §§102 and 103 is requested. Additionally, the Examiner is invited to telephone the undersigned attorney if there are any questions about this submission or other matters, which may be addressed in that fashion.

Respectfully submitted,

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